

REMARKS

Claims 14, 18, and 22 have been canceled.

Claims 12, 13, 15-17, 19-21, and 23-31 are pending in the application.

Reconsideration of the rejection of claims 12-31 under 35 U.S.C. 103(a) as being unpatentable over Boecking (US 2003/0062026) is respectfully requested.

Claim 12 is directed to a common rail injector for injecting fuel into a combustion chamber of an internal combustion engine, having an injector housing including a fuel supply line communicating with a central high-pressure fuel source outside the injector housing and with a pressure chamber inside the injector housing, *from which pressure chamber, as a function of the position of a 3/2-way control valve, fuel subjected to high pressure is injected into the combustion chamber*, wherein the control valve comprises a valve piston which is movable back and forth in the injector housing between a position of repose and an injection position, wherein the valve piston is coupled hydraulically with *a piezoelectric actuator and the valve piston is subjected to the pressure from the high-pressure fuel source*, and further comprising *a pressure face embodied on the valve piston, the pressure face being subjected constantly to high pressure from the fuel supply line*.

Boecking discloses a common rail injector (2) having an injector housing, a fuel supply line (4) communicating with a high-pressure fuel source (5), pressure chamber (3) inside the injector housing, valve (6), valve piston (14) coupled hydraulically (19) with a piezoelectric actuator (7) by coupling chamber (18, 19), fuel return (25), valve member control chamber (3), and pressure booster (13) control chamber.

The examiner states that Boecking lacks a teaching that the piezoelectric actuator (7) is subjected to a high-pressure fuel source and continues that it would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute a high-pressure fuel for the hydraulic fluid to obtain a predictable result of controlling the piezoelectric actuator by the high-pressure fuel.

Applicant disagrees with the examiner's position because it is clearly intended by Boecking to separate the high pressure region (3, 4, 5) from the valve 1 which is coupled to the piezoelectric actuator. Applicant believes it would therefore be detrimental to the object of the Boecking invention to substitute a high-pressure fuel in the areas (18-21) as suggested by the examiner, which are meant to be separated from the hi-pressure region (3). See abstract.

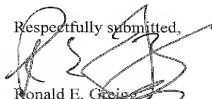
Furthermore, Applicant disagrees that Boecking discloses a 3/2-way control valve. The control valve 6 shown in Boecking is a 2/2-way valve as there are only two ducts (ducts 30 and 25) and two positions (open/closed 30). A 3/2-way valve according to the invention would require 3 ducts (ducts 33, 29, 38 as shown in Fig. 1 of the invention) and 2 positions (closed 38 and closed 33). Therefore, Boecking lacks a 3/2-way valve.

Additionally, according to amended claim 12, it is claimed that the valve piston is always subjected to the pressure from the high-pressure fuel source. See [0032]. There is always high pressure in chamber 26 which extends unhindered via duct 33 to the pressure face X of the valve piston. In Boecking there is not always high pressure on the pressure face of the valve piston due to throttle 3.

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Therefore, Applicant believes that the present invention is not rendered obvious by Boecking, and the current claims are distinguishable over the prior art. Therefore, withdrawal of the rejection and allowance of the application is respectfully requested.

Respectfully submitted,



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